

REMARKS

Non-elected claims 29-32 and 58 directed to a device have been canceled, and method claims 3, 4, 37-39, 41, 42, 47, 48, 50 and 55 are withdrawn as being directed to a non-elected species. Method claims 1, 2, 34-36, 40, 43-46, 49, 51-54, 56 and 57 are pending. Independent claim 1 has been amended to distinguish over the prior art of record. No new matter was added. Accordingly, Applicants respectfully submit that the present application is in condition for allowance.

I. Claim Rejections - 35 USC 103(a)

- A. *In the Office Action, claims 1, 2 and 54 are rejected under 35 USC 103(a) as being obvious over U.S. Patent No. 5,972,419 issued to Roitman in view of U.S. Patent No. 6,408,878 B2 issued to Unger et al. and further in view of U.S. Patent Application Publication No. 2002/0072139 A1 of Kashiwabara.*

Independent claim 1 of the present application has been amended to require the functional material to be deposited onto the substrate in a conformal thin film. No new matter was added. For example, see page 15, line 28, of the present application as filed for reference to “a conformal thin film 150”.

Accordingly, the functional material of the present invention is applied as a conformal thin film covering not only the well-defined regions, but also surrounding regions (see page 15, lines 26-28, of the present application). The advantage of such a step is that it does not require the precision of a droplet dispensing mechanism and can, therefore, form pixels of a significantly smaller size than pixels formed by droplets. The problems with inkjet printing and like droplet dispensing technologies is discussed on page 3, line 31, to page 4, line 16, of the present

application as filed. Due to the required minimum volume of the droplets, pixel sizes less than 25 to 30 micrometers is difficult to form, if not impossible.

The primary reference cited in the above referenced rejection (and all the other obviousness rejections) is the Roitman patent. Roitman's functional material, namely droplets 138 of electroluminescent dye, is deposited solely into wells defined by a mask 131 (see FIG. 2 of Roitman). As best described on column 3, lines 30-50, of Roitman, a dispenser 136 moves with respect to the display and dispenses the droplets into the wells. Alternate droplet dispensing mechanisms are discussed on column 4, lines 32-51, of Roitman. These mechanisms include inkjet printers, vibrating nozzles, micro-pipettes, pen plotters, and an array of micro-pipettes. All apply the functional materials as droplets and only within defined wells (not on the exposed surfaces of the mask).

Based on Applicants' amendment of claim 1 of the present application and Roitman's reliance on droplet dispensing technologies, Applicants respectfully submit that a proper prima facie case of obviousness cannot be made under 35 USC 103(a) based on a combination of references including the primary reference Roitman. The Board of Appeals, Federal Circuit, and U.S. Supreme Court have consistently held that rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with a rational underpinning to support the legal conclusion of obviousness. Applicants respectfully submit that such reasoning is not provided for the above referenced combination of prior art because the primary reference, Roitman, teaches away from the method required by claim 1 of the present application and any modification of the mechanism by which Roitman deposits its functional material would change or destroy the intent, purpose or function of its method.

Roitman teaches away from the present invention

“Teaching away” is the antithesis of the art suggesting that the person of ordinary skill in the art go in the claimed direction. Essentially, ***“teaching away” is a per se demonstration of lack of obviousness.*** In re Fine, 873 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

Applicants respectfully submit that Roitman **teaches away** from claim 1, as amended, of the present application. Roitman clearly relies on inkjet and like droplet dispensing technologies to deposit functional material only within pre-defined wells of a mask. As an example, see FIG. 2 of Roitman. Accordingly, Roitman teaches away from depositing a functional material as a conformal thin film because such a film would not only extend within the wells but also would extend on and cover the mask (131 of Roitman, FIG. 2). Roitman clearly teaches that the droplets are dispensed into the wells and not onto the mask.

For at least this reason, Applicants respectfully request reconsideration and removal of the above referenced obviousness rejection.

Modifying Roitman would change or destroy its intent, purpose or function

When a §103 rejection is based upon a modification of a reference that destroys the intent, purpose or function of the invention disclosed in the reference, such a proposed modification is not proper and a *prima facie* case of obviousness cannot be properly made. In re Gordon, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984).

Applicants respectfully submit that the method of Roitman relies on droplet dispensing technologies. This aspect of the method of Roitman cannot be modified without the intent,

purpose, and function of the method of Roitman being changed or destroyed. Roitman clearly requires that a droplet is dispensed only within each well and that the functional material should not be deposited onto the exposed surfaces of the mask.

Applicants respectfully submit that the presence of functional material covering the mask would destroy the method of Roitman. In fact, in the Office Action, this has already been admitted. For example, see page 6 of the Office Action where it is stated that:

“Spin coating is a non-selective type coating method. In other words, the entire substrate will be coated with the EL material when using spin coating. The EL layers 108 of Roitman will all be the same color if the deposition method is used with the method of forming the protective layer as disclosed by Roitman. However, Roitman teaches the EL material disposed in a first well-defined region emits a different spectrum of light from the EL material dispensed in a second well-defined region (col. 2, lines 6-9).”

Accordingly, as already admitted by the Examiner, spin coating of the functional material would result in the presence of a conformal thin film covering the entire substrate including the mask. This is in direct contradiction to the teachings of Roitman. Modifying Roitman such that the function material is deposited in a manner covering the mask would clearly change or destroy the intent, purpose, and function of Roitman’s mask and method.

For at least this reason, Applicants respectfully request reconsideration and removal of the above referenced obviousness rejection.

B. In the Office Action, claim 34 is rejected under 35 USC 103(a) as being obvious over U.S. Patent No. 5,972,419 issued to Roitman in view of U.S. Patent No. 6,408,878 B2 issued to Unger et al. further in view of U.S. Patent Application Publication No. 2002/0072139 A1 of Kashiwabara and further in view of U.S. Patent Application Publication No. 2002/0136823 A1 of Miyashita et al.;

- C. *In the Office Action, claims 35 and 36 are rejected under 35 USC 103(a) as being obvious over U.S. Patent No. 5,972,419 issued to Roitman in view of U.S. Patent No. 6,408,878 B2 issued to Unger et al. further in view of U.S. Patent Application Publication No. 2002/0072139 A1 of Kashiwabara and further in view of U.S. Patent Application Publication No. 2001/0015318 A1 of Rasmussen;*
- D. *In the Office Action, claims 40 and 43-45 are rejected under 35 USC 103(a) as being obvious over U.S. Patent No. 5,972,419 issued to Roitman in view of U.S. Patent No. 6,408,878 B2 issued to Unger et al. further in view of U.S. Patent Application Publication No. 2002/0072139 A1 of Kashiwabara and further in view of WO 99/12398 of Friend;*
- E. *In the Office Action, claim 46 is rejected under 35 USC 103(a) as being obvious over U.S. Patent No. 5,972,419 issued to Roitman in view of U.S. Patent No. 6,408,878 B2 issued to Unger et al. further in view of U.S. Patent Application Publication No. 2002/0072139 A1 of Kashiwabara further in view of WO 99/12398 of Friend and still further in view of U.S. Patent Application No. 2002/0011641 A1 of Oswald et al.;*
- F. *In the Office Action, claim 49 is rejected under 35 USC 103(a) as being obvious over U.S. Patent No. 5,972,419 issued to Roitman in view of U.S. Patent No. 6,408,878 B2 issued to Unger et al. further in view of U.S. Patent Application Publication No. 2002/0072139 A1 of Kashiwabara and further in view of U.S. Patent No. 6,146,715 issued to Kim et al.; and*
- G. *In the Office Action, claims 51-53, 56 and 57 are rejected under 35 USC 103(a) as being obvious over U.S. Patent No. 5,972,419 issued to Roitman in view of U.S. Patent No. 6,408,878 B2 issued to Unger et al. further in view of U.S. Patent Application Publication No. 2002/0072139 A1 of Kashiwabara and still further in view of U.S. Patent No. 6,146,715 issued to Kim et al. and U.S. Patent No. 6,399,224 B1 issued to Li.*

In all of the above referenced obviousness rejections, the method of the primary reference, Roitman, requires modification.

Based on Applicants' amendment of claim 1 of the present application (discussed above in detail) and Roitman's reliance on droplet dispensing technologies (discussed above in detail), Applicants respectfully submit that a proper prima facie case of obviousness cannot be made under 35 USC 103(a) based on any of the above referenced combinations of references which includes the primary reference Roitman. The Board of Appeals, Federal Circuit, and U.S. Supreme Court have consistently held that rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with a rational underpinning to support the legal conclusion of obviousness. More specifically, Applicants respectfully submit that such reasoning cannot be provided for the above referenced combinations of prior art because the primary reference, Roitman, teaches away from the method required by claim 1 of the present application and any modification of the mechanism by which Roitman deposits its functional material would change or destroy the intent, purpose and function of Roitman's method.

For these reasons, which are the same reasons advanced for the patentability of claim 1 and discussed in greater detail above, Applicants respectfully request reconsideration and removal of all the above referenced obviousness rejections.

III. Conclusion

In view of the above amendments and remarks, Applicants respectfully submit that the rejections have been overcome and that the present application is in condition for allowance. Thus, a favorable action on the merits is therefore requested.

Please charge any deficiency or credit any overpayment for entering this Amendment to our deposit account no. 08-3040.

Respectfully submitted,
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